

REMARKS

This amendment is responsive to the non-final Office Action mailed on September 20, 2005. Claims 1, 3-8 and 13, 14 and 16 are pending after the amendment, claims 2, 9-12, 15, and 17-19 have been cancelled, and claims 1, 6, 8, 13, and 16 have been amended. In view of the foregoing amendments, as well as the following remarks, Applicants respectfully submit that this application is in complete condition for allowance and request reconsideration of the application in this regard.

Election

Applicants affirm the provisional election to prosecute the invention of Species I, claims 1-8 and 13-16 made during a telephone conversation with Applicants' undersigned representative. However, the provisional election was made without traverse. Applicants request acknowledgement that the election was made without traverse.

Rejections under 35 U.S.C. § 112

The Office Action rejects claims 1-8 and 13-16 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

With regard to the apparent inconsistencies noted in the Office Action relating to usage of the term "shoulder layer," Applicants have amended the specification to better conform the written description to the drawings, cancelled claim 2, and amended claim 6 to clarify the usage of "shoulder layer" and to the distinction between spiral wound belt layers and shoulder layers. Applicants submit that no new matter has been added to the amended specification. The spiral wound belt layers (34, 36) and spiral wound shoulder layers (42, 44, 46, 48, 50, 52, 54) are formed when a continuous strip (38) is wound about the circumference of the tire (10). The

distinction between the spiral wound belt layers (34, 36) and the spiral wound shoulder layers (42, 44, 46, 48, 50, 52, 54) is that the spiral wound shoulder layers (42, 44, 46, 48, 50, 52, 54) are proximate to the shoulder (18). As stated at page 5, lines 21-25 in Applicants' specification, the term "shoulder" means "the upper portion of sidewall just below the tread edge" and the term "tread" means a molded rubber component that includes the portion of the tire that comes into contact with the road when the tire is normally inflated and under normal load, and the term "sidewall" means that portion of a tire between the tread and the bead area. Hence, the location of the spiral wound shoulder layers and the spiral wound belt layers in the claimed tire construction is definite.

As used in claims 8 and 16 and as amended for consistency with the specification, the phrase "zero degree spiral overlay" is a term of art that ordinarily and customarily connotes winding a strip circumferentially and spirally about the tire's axis of rotation and, hence, substantially parallel with the equatorial plane of the tire. Applicants' specification describes at page 6, lines 15-18 that a zero degree spiral overlay means that the continuous strip is wound circumferentially about the tire. However, usage of this term of art does not literally imply that the winding angle is 0°, as noted in the Office Action. Instead, the phrase "zero angle spiral overlay" necessarily admits to small winding angles that permit a continuous strip to be wound circumferentially and spirally about the tire.

Applicants have amended independent claim 13 to provide appropriate antecedent basis for the term spiral wound shoulder layers in claim 16.

Applicants respectfully request that the rejection be withdrawn.

Rejections under 35 U.S.C. § 102

The Office Action rejects claims 1, 2, 5, 8, 13, 14 and 16 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,115,853 issued to Oare et al. (hereinafter *Oare*). The Office Action also rejects claims 3 and 4 under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over *Oare* et al. Of the rejected claims, claims 1 and 13 are the only independent claim and claim 2 has been cancelled. The Examiner contends that *Oare* shows or teaches all the elements of the rejected claims. Applicants respectfully traverse the Examiner's contention.

Applicants' claim 1 sets forth that the belt reinforcing structure includes a plurality of spiral wound shoulder layers. In contrast, the single spiral wound belt layer (36) in *Oare* has lateral edges (38, 39) that clearly terminate short of the shoulder and, thus, are only present radially between the tread (42) and carcass. In order for a reference to anticipate the invention in a claim, the reference must teach each and every element in the precise arrangement set forth in the claim. If the reference fails to teach even one of the claimed elements, the reference does not and cannot anticipate the claimed invention. Because *Oare* fails to disclose spiral wound shoulder layers in the shoulder as set forth in Applicants' claim 1, *Oare* does not anticipate independent claim 1 for at least this reason.

Applicants' claim 1 also sets forth that the belt reinforcing structure includes a plurality of cut belts "extending axially into said shoulder" and that the plurality of spiral wound shoulder layers overlap "said plurality of cut belts in said shoulder." In contrast, the lateral edges (40, 41) of the cut belts (33, 34) in *Oare* clearly terminate short of the shoulder and, thus, are only present radially between the tread (42) and carcass. Moreover, it follows logically that *Oare* fails to disclose that the spiral wound shoulder layers overlap the cut belts in the shoulder,

as set forth in claim 1. Because of these deficiencies, *Oare* fails to anticipate independent claim 1 for at least these additional reasons.

Applicants claim 1 further sets forth that the spiral wound belt layers are characterized by “a first winding pitch of greater than or equal to one strip width per revolution” and that the spiral wound shoulder layers are characterized by “a second winding pitch of less than one strip width per revolution.” As amended for clarity, claim 1 also sets forth that the spiral wound belt layers extend “from said equatorial plane to said shoulder.” The Office Action considers the disclosure at column 3, lines 18-22 in *Oare* to disclose such first and second winding pitches. Moreover, the disclosure identified in *Oare* only relates to a portion of the overlay structure that is near the equatorial plane that is characterized as abutting and the axial outer portion of the structure that is characterized as overlapped. Column 3, lines 18-22 of *Oare* fails to disclose a pitch for wound portions of the strip other than in regions other than near the equatorial plane and the axial outer portion. On the other hand, *Oare* discloses at column 2, line 67 to column 3, lines 18 that the width (i.e., extent) of the overlap increases gradually across portion B to transition from portion C to portion A. In other words, *Oare* does not disclose that the “abutting relationship” is present in regions of the overlay structure between the turn(s) proximate to the equatorial plane and the axial outer portions. Applicants’ claim 1 sets forth that the first winding pitch for the spiral wound belt layers is present from the equatorial plane to the shoulder. Because *Oare* fails to disclose that the first winding pitch is present across the spiral wound belt layers from the equatorial plane to the shoulder as set forth in Applicants’ claim 1, *Oare* does not anticipate independent claim 1 for at least this additional reason.

Applicants’ claim 1 sets forth a plurality of spiral wound belt layers. In contrast, *Oare* only shows a single spiral wound belt layer in Fig. 3; not a plurality of spiral wound belt

layers as set forth in Applicants' claim 1. Because *Oare* fails to disclose more than one spiral wound belt layer as set forth in Applicants' claim 1, *Oare* does not anticipate independent claim 1 for at least this additional reason.

Applicants respectfully request that this rejection be withdrawn.

Applicants further submit that the claimed invention is not obvious over the disclosure of *Oare* because *Oare* fails to provide a motivation or suggestion to extend the axial extent of the wound strip into the shoulder to form spiral wound shoulder layers. Specifically, *Oare* fails to disclose or recognize a benefit that would be gained by this construction. The overlapping spiral wound shoulder layers in Applicants' claimed tire construction operate to stiffen the shoulder and improve dynamic performance. Arranging the continuous strip to form overlapping spiral wound shoulder layers in the shoulder, but not between the equatorial plane and the shoulder, advantageously achieves the improvement in dynamic performance and the stiffening without adding significant weight to the tire.

Because claims 3-5 and 8 depend from independent claim 1, Applicants submit that these claims are also patentable. Furthermore, each of these claims recites a unique combination of elements not taught, disclosed or suggested by *Oare*.

Independent claim 13, which has been amended in a manner analogous to the amendments made to claim 1, is patentable for at least the same reasons as independent claim 1, as discussed above. Because claims 14 and 16 depend from independent claim 13, Applicants submit that these claims are also patentable for at least the same reasons discussed above. Furthermore, each of these claims recites a unique combination of elements not taught, disclosed or suggested by *Oare*. Consequently, Applicants request that the rejection of these claims be withdrawn.

Rejections under 35 U.S.C. § 103

The Office Action rejects claim 6 under 35 U.S.C. § 103(a) as being unpatentable over *Oare* et al. and further in view of at least one of U.S. Patent No. 5,277,236 issued to Takatsu et al. (hereinafter *Takatsu*) and U.S. Patent No. 5,385,190 issued to Assaad et al. (hereinafter *Assaad*). Applicants submit that claim 6 is patentable for at least the same reasons as independent claim 1 from which it depends. In this regard, neither *Takatsu* nor *Assaad* cure the deficiencies of *Oare*, as fully discussed above. Furthermore, this claim recites a unique combination of elements not taught, disclosed or suggested by *Oare* in combination with either *Takatsu* or *Assaad*.

The Office Action rejects claim 7 under 35 U.S.C. § 103(a) as being unpatentable over *Oare* in view of at least one of *Takatsu* and *Assaad* as applied to claim 6, and further in view of U.S. Patent No. 5,007,974 issued to Maathuis et al. (hereinafter *Maathuis*). Applicants submit that claim 7 is patentable for at least the same reasons as independent claim 1 from which it depends. In this regard, *Maathuis* fails to cure the deficiencies of *Oare* in view of either *Takatsu* or *Assaad*, as fully discussed above. Furthermore, this claim recites a unique combination of elements not taught, disclosed or suggested by *Oare* in combination with either *Takatsu* or *Assaad* and further in combination with *Maathuis*.

The Office Action rejects claim 15 under 35 U.S.C. § 103(a) as being unpatentable over *Oare* as applied to claim 13, and further in view of *Maathuis*. Applicants submit that claim 15 is patentable for at least the same reasons as independent claim 13 from which it depends. In this regard, *Maathuis* fails to cure the deficiencies of *Oare*, as fully discussed above. Furthermore, this claim recites a unique combination of elements not taught, disclosed or suggested by *Oare* in combination with *Maathuis*.

Conclusion

Applicants have made a bona fide effort to respond to each and every requirement set forth in the Office Action. In view of the foregoing amendments and remarks, this application is submitted to be in complete condition for allowance and, accordingly, a timely notice of allowance to this effect is earnestly solicited. In the event that any issues remain outstanding, the Examiner is invited to contact the undersigned to expedite issuance of this application.

Applicants do not believe fees are dues in connection with filing this communication. If, however, any fees are necessary as a result of this communication, the Commissioner is hereby authorized to charge any under-payment or fees associated with this communication or credit any over-payment to Deposit Account No. 23-3000.

Respectfully submitted,

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